

Modern Concepts of Cardiovascular Disease

Published monthly by the AMERICAN HEART ASSOCIATION

50 WEST 50TH STREET, NEW YORK, N. Y.

DR. WILLIAM J. KERR, San Francisco, Editor

DR. JOHN J. SAMPSON, San Francisco, Associate Editor

Vol. V

October, 1936

No. 10

THE PROPHYLAXIS AND TREATMENT OF CARDIOVASCULAR SYPHILIS

There is probably no place in medicine where the old saw that "an ounce of prevention is worth a pound of cure" may be repeated with more assurance of its essential truth than in a discussion of cardiovascular syphilis. While the treatment of the more grave manifestations of syphilis of the cardiovascular system is not as futile as has been assumed in the past, and while the response to therapy of the less serious form (e.g., uncomplicated syphilitic aortitis) may be brilliant, there should be no necessity to consider in detail the methods of treatment to be applied in either group, or the results thereof, because *cardiovascular syphilis is essentially a preventable disease.*

Had there been, for twenty years, a well established, widely publicized and readily available method of treatment, the proper application of which would assure all but a few patients with acute rheumatic fever against the development of cardiac involvement, it goes without saying that by now the morbidity rate for rheumatic heart disease would be but a mere fraction of the present incidence. Were this Elysium to obtain, it is equally obvious that both the medical profession and the informed laity would strongly condemn the failure to provide such therapy to any for whom it was indicated.

Yet, in spite of the fact that there *has been*, for twenty years, a well systematized method for the prophylaxis of cardiovascular syphilis which has been given such wide publicity that failure properly to apply it (in a special case) caused a Massachusetts physician to be hailed before the Board of Registration in Medicine, and for which, excepting a brief period at its inception, the appropriate drugs have been readily available, there have been no dramatic results. To be sure, there is evidence that the incidence of the grave forms of cardiovascular syphilis has declined somewhat in the last two decades, but reliable estimates indicate that the progress which has been made toward reduction of the morbidity rate is not of the order of mag-

nitude which was logically to be expected. Today there are in the United States more than a quarter of a million people incapacitated or fatally ill as the result of advanced syphilitic lesions of the cardiovascular system, and as many more suffering similar, earlier and milder, but potentially as serious changes.

The reasons for this deplorable situation are easy to see. The eradication of cardiovascular syphilis depends upon the adequate treatment* of all patients with early syphilis, which, applied as it has been in the Scandinavian countries operates in two ways; the so-treated individual gains by virtue of his early adequate treatment a relatively certain guarantee against the development of crippling or fatal cardiovascular disease, and in addition he is rendered non-infectious so that the spread of syphilis to other potential victims is avoided, and the vicious chain is broken. A conspiracy of silence and ignorance, however, has made such treatment difficult to accomplish. The early lesions of syphilis may be so inconspicuous as to escape attention, or so trivial as to be disregarded as unimportant, even by some physicians. The diagnosis having been made or suspected, however, *tabu*, the expense or painfulness of treatment, and numerous other factors coupled with ignorance of the remote potentialities may still operate to prevent the patient from receiving adequate antisyphilitic treatment. The only remedy for existing conditions is wholesale education of both profession and public, in order to bring under observation all who have lesions which may be early syphilis and to assure that the physician knows how most quickly and accurately to establish a diagnosis, and if syphilis be found, how it should be treated. This latter has been the subject of widely broadcast reports.

*The adequate treatment for early syphilis has been defined, for purposes of discussion, as not less than twenty injections of an arsphenamine and twenty injections of heavy metal within a period of a year, and within the first two years following infection. Best practice, however, regularly exceeds this minimum.

The opportunity to prevent cardiovascular syphilis does not end, however, with the failure to treat early syphilis. Although it is likely that foci of organisms have been deposited in the wall of the aorta and possibly in the actual muscle of the heart during the first stage of the disease, a number of years (usually 5-15) pass before there is sufficient damage done to attract attention by producing symptoms, or signs to be found upon examination. During this period, the patient is said to be in the stage of latency, in which the only detectable evidence of his infection is a positive serologic test for syphilis. The prospects for the ultimate protection of such patients against the development of serious late lesions of syphilis are somewhat less than in patients with early syphilis, but are still so good that antisypilitic treatment is imperatively indicated. Here again, case finding becomes the matter of prime importance, and the only applicable method is the routine utilization of a serologic test for syphilis under all circumstances. When syphilis is diagnosed in the stage of latency, the appropriate treatment system is similar to or identical with that used in early syphilis.

If preventive measures have failed, and the development of clinically demonstrable cardiovascular syphilis has begun, the first stage is the condition termed uncomplicated syphilitic aortitis, which may progress to the development of saccular aortic aneurysm, or syphilitic aortic insufficiency; the latter may coexist. Under these circumstances, anti-syphilitic treatment must be given with care, and with regard to five cardinal principles:

1. To avoid the production of therapeutic shock (the Herxheimer reaction) treatment should begin with heavy metal and the iodides.
2. Avoid the therapeutic paradox (too rapid healing of lesions with too great scar formation) by the same means.
3. Immediate grave treatment reactions (nitritoid type) must be avoided; therefore arsphenamine may not be used in any dose in seriously ill patients.
4. Minor treatment reactions (nitritoid reactions) should be avoided if possible; therefore the arsenicals should be given in small doses.
5. For maximum effect, treatment should be continuous, and prolonged to at least two years.

In application, these principles may be observed by a treatment system which begins with a series of twelve weekly injections of 0.2 gm. of an oily suspension of bismuth salicylate, followed without

interruption by ten weekly injections of neoarsphenamine. Considering this a course, at least five such courses (110 weeks) should be given without rest periods. The first course of neoarsphenamine should always begin with a small dose (one-third the expected maximum dose) which if well tolerated may be increased. This precaution is not necessary in subsequent courses if there has been no interruption of therapy. The expected maximum dose must be determined by the severity of the aortic lesion. Patients with milder forms of aortitis may eventually be given 0.6 gm. of neoarsphenamine without mishap, but for those suffering aortal attacks, and all with saccular aortic aneurysm or aortic insufficiency the maximum dose should not exceed 0.3 gm. In patients suffering cardiac decompensation this treatment system should not be instituted until compensation is regained under a usual therapeutic regime; in the interim the use of one of the mercurial diuretics, if indicated by the degree of edema, may have some beneficent effect on the aortic lesion. In all patients, the usual indications for limitation of activity, digitalis, etc., are observed.

No repair of anatomical damage to the aorta or heart may be expected, of course, but by this system of treatment seven of eight patients with uncomplicated aortitis may be given symptomatic relief, and in two of three progress of the lesion may be stopped before serious damage is done.

The outlook for patients with saccular aneurysm or aortic insufficiency is, naturally, much more grave, as is syphilitic involvement of the coronary arteries and heart muscle which may exist but cannot be diagnosed positively in life. One-third of these come under observation so ill, and with such a bad initial prognosis that death occurs before treatment can be given; in the remainder properly directed therapy results in alleviation of symptoms and prolongation of life, with sometimes sufficient rehabilitation to allow return to work. At best, however, the results from treatment in patients with aneurysm and aortic insufficiency present a sufficiently gloomy picture to demand re-emphasis of the fact that *cardiovascular syphilis is a preventable disease*. The method of prevention is the adequate treatment of early syphilis, which can be accomplished only when profession and laity alike are habituated into the methods of case finding.

Paul Padget, M.D.
Baltimore, Maryland

coars-
at five
thout
amine
-third
l tel-
s not
been
immun
of the
ortitis
hena-
g an-
urysm
should
ardia
d not
under
ne us
ed by
eficent
s, the
ritalia

arta or
is sys-
th un-
omatic
lesion
ne.

urysm
mon
ronary
at can-
ird of
h such
before
prop-
on of
etimes
work
ent in
iciency
and re-
yphili
vention
which
d laity
f case